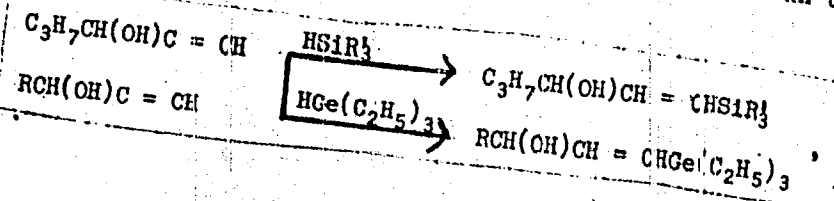


L 6485-66' EWT(m)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) IJF(c) JD/FM
 ACC NR: AP5028891
 AUTHOR: Shikhiyev, I. A.; Aslanov, I. A.; SOURCE CODE: JR/0316/65/000/004/0042/0043
 ORG: INKhP AN AzerSSR Mekhmandarova, N. T.; Verdiyeva, S. Sh.

TITLE: Synthesis and conversions of unsaturated germanium and silicon organic compounds
 SOURCE: Azerbaydzhanskiy khimicheskiy zhurnal, no. 4, 1965, 42-43

TOPIC TAGS: organogermanium compound, organosilicon compound, secondary alcohol, ethylenic alcohol, silane, germane

ABSTRACT: Ten new compounds were synthesized by reacting propylethynylcarbinol and isopropylethynylcarbinol with trialkylsilanes and trialkylgermanes in the presence of chloroplatinic acid:



Card 1/2

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Card 2/2

APPROVED FOR RELEASE

L 23842-66

EWT(m)/EWP(j)/T

IJP(o)

WW/JW/RM

ACC NR: AP6007122

SOURCE CODE: UR/0079/66/036/002/0355/0357

AUTHOR: Shikhiyev, I. A.; Aslanov, I. A.; Verdiyeva, S. Sh.

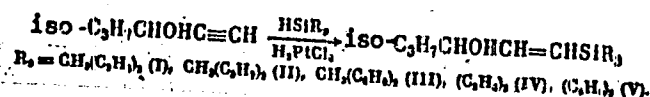
ORG: Institute of Petrochemical Processes, Academy of Sciences, Azerbaydzhan SSR
(Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR)

TITLE: Studies in the synthesis and conversion of unsaturated organosilicon compounds. Part 28: Synthesis and conversion in certain monatomic organosilicon alcohols of the ethylene series

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 355-357

TOPIC TAGS: organosilicon compound, alcohol, chemical reaction

ABSTRACT: In order to further develop the studies of organometallic derivatives of unsaturated alcohols, the reaction of isopropylethynylcarbinol with various trialkylsilanes,



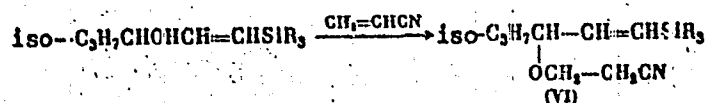
was investigated. Five representatives of secondary organosilicon alcohols of the ethylene series were obtained and described for the first time: 1-methyldiethylsilyl-

Card 1/2

L 23842-66

ACC NR: AP6007122

2
-4-methyl-1-penten-3-ol; 1-methyldipropylsilyl-4-methyl-1-penten-3-ol; 1-methyldi-
butyl-silyl-4-methyl-1-penten-3-ol; 1-triethylsilyl-4-methyl-1-penten-3-ol, and 1-tri-
butyl-silyl-4-methyl-1-penten-3-ol. The presence of hydroxyl groups in the composi-
tion of secondary ethylenic alcohols was demonstrated by cynoethylation according to
the reaction



The corresponding cyanooxy derivatives of secondary alcohols were obtained and de-
scribed for the first time. Orig. art. has: 2 formulas, 1 table.

SUB CODE: 07/

SUBM DATE: 23Jan65/

ORIG REF: 003/

OTH REF: 000

Card 2/2 27

L 04551-67 EWT(m)/EWP(j) RM
ACC NR: AP6025992

SOURCE CODE: UR/0079/66/036/007/1295/1297

AUTHOR: Shikhiyev, I. A.; Aslanov, I. A.; Mekhmandarova, N. T.

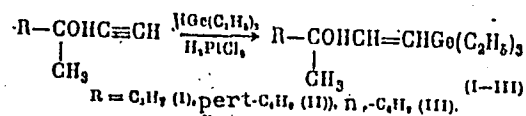
ORG: none

TITLE: Investigations of synthesis and transformations of unsaturated organogermanium compounds. XXX. Synthesis and transformations of certain branched monoatomic tertiary ethylenic organogermanium alcohols

SOURCE: Zhurnal obshchey khimii, v. 36, no. 7, 1966, 1295-1297

TOPIC TAGS: organic synthesis, organogermanium compound

ABSTRACT: In this article, some tertiary ethylenic organogermanium alcohols were synthesized by reacting methylpropyl-, methyl-tert-butyl, methyl-n-butylethynyl carbiols with triethylgermane according to the following reaction



The obtained compounds are: 1-triethylgermyl-3-methylhex-1-ene-3-ol, 1-triethylgermyl-3,4,4-trimethylpent-1-ene-3-ol, 1-triethylgermyl-3-methylhept-1-ene-3-ol, 1-tri-

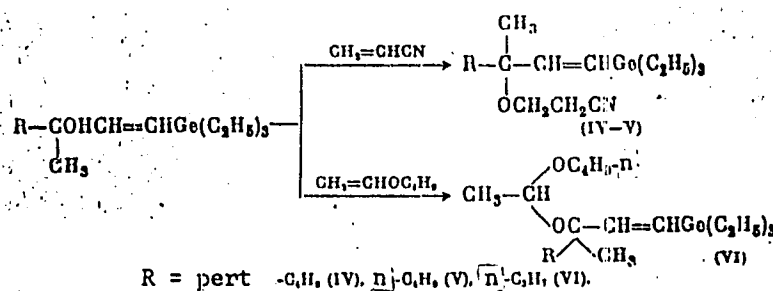
Card 1/2

UDC: 547.438.6

L 04551-67

ACC NR: AP6025992

-ethylgermyl-3,4,4-trimethylpent-1-ene-3-cyanoethyl ether, 1-triethylgermyl-3-methylhept-1-ene-3-cyanoethyl ether, n-butyl-1-triethylgermyl-3-methylhept-1-ene acetal. The presence of hydroxyl group in the obtained organogermanium ethylenic alcohols was proven by cyanoethylation and acetylation by the following scheme:



The table in the article summarizes the properties and elemental analysis of the synthesized compounds. Orig. art. has: 1 figure, 1 table.

SUB CODE: 07/

SUBM DATE: 12Jul65/

ORIG REF: 002

Card 2/2 *plu*

5(3)

AUTHORS:

Shikhiyev, I. A., Komarov, N. V.,
Aslanov, I. A. (Baku)

SOV/74-27-12-4/4

TITLE:

Synthesis and Some Transformations of Organic and Organosilicon
Acetals (Sintez i nekotoryye prevrashcheniya organicheskikh
i kremniyorganicheskikh atsetaley)

PERIODICAL:

Uspekhi khimii, 1958, Vol 27, Nr 12, pp 1504 - 1517 (USSR)

ABSTRACT:

In the present paper the authors carried out a comparative estimation of organic and organosilicon acetals by comparing their properties, conditions of synthesis and some transformations based upon acetylene, aldehydes, organic and organosilicon alcohols and silanols. Comparing the methods of synthesis of organic acetals with those of organosilicon acetals the former are stated to show a greater variety. Investigations in the field of synthesis of acetals were started on the basis of acetylene as well as of alcohols containing 1, 2, and 3 carbon atoms in the presence of various catalysts. On the strength of comprehensive investigations it was found that vinyl ethers are valuable initial substances for various syntheses. It was found that apart from acetylene alcohols, also acetylene glycols are good

Card 1/5

Synthesis and Some Transformations of Organic
and Organosilicon Acetals

SOV/74-27-12-4/4

initial substances for the synthesis of acetylene acetals. As far as the saturated glycols are concerned it is known (Refs 24 and 25) that some ethylene glycol derivatives have been widely applied to the field of preparative organic chemistry and various industries. The investigations of the synthesis of cyclic acetals and their application are of great theoretical and practical importance. Silicon containing acetals take a special position (Refs 38 - 41). Organic acetals are colorless, transparent liquids smelling like ether. It is possible to explain the formation of organic acetals in their synthesis from vinyl ether and alcohols on the basis of Shostakovskiy's oxonium theory (Refs 13, 42 - 45). It was shown (Refs 74 and 23) that on heating vinyl ether with alcohol in the autoclave corresponding acetals are formed also without a catalyst. Organic acetals have particular properties which are due to their structure. They are easily formed and are inclined to decompose. It is a well-known fact that (Refs 13, 15, 16) mixed alkyl acetals disproportionate on heating and that they form corresponding symmetric acetals. When heated under atmospheric pressure

Card 2/5

Synthesis and Some Transformations of Organic
and Organosilicon Acetals.

SOV/74-27-12-4/4

alkyl aryl acetals are split off and phenol is separated (Ref 60). Thus a new method of indirect synthesis of different vinyl ethers by means of distillation of alkyl aryl acetals under atmospheric pressure was discovered. This method is the basis of the indirect synthesis of vinyl ethers of a series of unsaturated tertiary and aliphatic alcohols the synthesis of which can hardly be carried out in a different way. In 1953 the chemistry of organosilicon acetals was introduced for the first time on the basis of vinyl alkyl ether and trialkylsilanols (Refs 61, 62). Later on this reaction was also applied to other representatives of trialkylsilanols (Refs 62 - 65), alkyl aryl silanols (Refs 38, 40, 66 - 68), dialkyl silandiol (Ref 69) and organosilicon alcohols (Refs 38, 70 - 72). According to their structure, organosilicon acetals are divided into symmetric and asymmetric ones. In 1954 the authors of the present paper obtained acetals from α -silicon containing alcohols and vinyl ethers (Refs 38, 40). In 1955 the authors obtained organosilicon acetals on the basis of organosilicon vinyl ethers and alcohols as well as silanols; the mentioned acetals contained

Card 3/5

Synthesis and Some Transformations of Organic
and Organosilicon Acetals

SOV/74-27-12-4/4

silicon atoms in both alcohol radicals (Refs 74, 76). Organosilicon acetals are colorless, transparent and oily liquids smelling like ether. They are easily soluble in organic solvents and not soluble at all in water, compared to organic acetals their freezing point is much lower and they are most resistant. Based upon Shostakovskiy's oxonium theory (Refs 13, 42, 43) it may be assumed that the formation of organosilicon acetals is due to an ion mechanism. Their chemical properties remind us of organic acetals. Nevertheless, new peculiar properties are found in those compounds due to an interaction of silicon and other atoms forming the molecule. It is worth while to carry out further investigation of organosilicon acetals. With respect to their reactivity they are related with their organic analogs and they could, therefore, easily be used as valuable initial substances for numerous transformations which have been well investigated in the case of corresponding organic acetals but are unknown in the case of organosilicon acetals.

Card 4/5

Synthesis and Some Transformations of Organic
and Organosilicon Acetals

SOV/74-27-12-4/4

There are 78 references, 61 of which are Soviet.

Card 5/5

USCOMM-DC-60,557

5 (3)

AUTHORS:

Shikhiyev, I. A., Shostakovskiy, M. F., SOV/79-29-5-31/75
Komarov, N. V. Aslanov, I. A.

TITLE:

Investigations in the Field of Synthesis and Transformations of Unsaturated Organo-germanium Compounds (Issledovaniya v oblasti sinteza i prevrashcheniy nepredel'nykh germaniyorganicheskikh sovedineniy). I. Synthesis of Mono-, Di-, and Trisubstituted Tertiary γ -Germanium Acetylene Alcohols (Sintez odno-, dvukh- i trekhatomnykh tretichnykh γ -germaniyatsetilenovykh spirtov)

PERIODICAL:

Zhurnal obshchey khimii, 1950, Vol 29, Nr 5,
pp 1549-1551 (USSR)

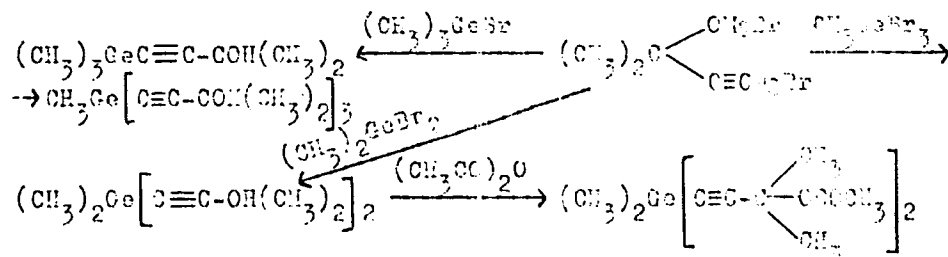
ABSTRACT:

In a previous paper (Ref 1) the reaction of di-magnesium-dibromodimethyl-ethynyl carbinol (Iotsich Reagent) with various alkyl-(aryl)-chlorosilanes was investigated. In order to explain further the reaction process with this reagent, its influence upon methyl-, dimethyl-, and trimethyl germanium bromides was investigated. The reaction was found to proceed with the formation of tertiary γ -germanium containing acetylene alcohols according to the following scheme:

Card 1/3

Investigations in the Field of Synthesis and Transformations of Unsaturated Organo-germanium Compounds. I. Synthesis of Mono-, Di-, and Trisubstituted Tertiary γ -Germanium Acetylene Alcohols

SOV/79-29-5-31/75



The occurrence of hydroxyl groups was confirmed by the acetic acid derivative of bis-(2-methylbutin-3-ol-2)-dimethyl germanium. Further reactions of organo-germanium alcohols and their derivatives will be described in later papers. The experimental part presents the physical data of the initial substances, the details of the synthesis, and the analysis of the compounds obtained. The authors prepared: (2-methylbutin-3-ol-2)-4-trimethyl germanium, bis-(2-methylbutin-3-ol-2)-4-dimethyl germanium, tri-(2-methylbutin-3-ol-2)-4-methyl germanium, and bis-(2-methylbutine-3-acetoxy-2)-4-dimethyl

Card 2/3

Investigations in the Field of Synthesis and
Transformations of Unsaturated Organo-germanium Compounds. I. Synthesis of
Mono-, Di-, and Trisubstituted Tertiary γ -Germanium Acetylene Alcohols

SOV/19-29-5-31/75

germanium. There are 3 Soviet references.

SUBMITTED: November 25, 1957

Card 3/3

5.3700 2209.

S/079/60/030/009/005/015
B001/B064

AUTHORS: Shikhiyev, I. A., Aliyev, M. I., Aslanov, I. A.,
Karayeva, Sh. V.

TITLE: Investigations in the Field of the Synthesis¹ and Conversion
of Unsaturated Organosilicon Compounds.¹ VII. Synthesis and
Properties of Some Secondary and Tertiary γ -Silicon-con-
taining Acetylene Alcohols¹

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 9,
pp. 2916-2919

TEXT: In the present paper (Ref. 1), the authors describe a method of synthesizing mono-, bi-, and trivalent γ -silicon-containing tertiary alcohols of the acetylene series. The present investigation deals with the synthesis of some representatives of the γ -silicon-containing secondary and tertiary acetylene alcohols by allowing the respective organomagnesium compound of the acetylene series to react with trialkyl chlorosilanes. The presence of the hydroxyl group in the γ -silicon-containing acetylene alcohols was confirmed by acetylation (Ref. 2) by the scheme given (details

Card 1/3

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Investigations in the Field of the Synthesis
and Conversion of Unsaturated Organosilicon
Compounds. VII. Synthesis and Properties
of Some Secondary and Tertiary γ -Silicon-
containing Acetylene Alcohols

S/079/60/030/009/005/015
B001/B064

in the experimental part). The following γ -silicon-containing acetylene alcohols were described: 1-trimethyl silyl-3-methyl pentin-1-ol-3; 1-dimethyl ethyl silyl-3-methyl pentin-1-ol-3; 1-trimethyl silyl pentin-1-ol-3; 1-trimethyl silyl-3-methyl hexine-1-methyl-5-ol-3; 1-trimethyl silyl-3-methyl heptin-1-ol-3; 1-triethyl silyl-3-methyl heptin-1-ol-3; 1-trimethyl silyl hexin-1-ol-3. The presence of a hydroxyl group in the alcohols obtained was confirmed by the following silicon-containing acetals synthesized from them: n-butyl trimethyl silyl methyl pentine-, n-butyl dimethyl ethyl silyl methyl pentine-, n-butyl triethylsilyl methyl pentine-, n-butyl trimethyl silyl dimethyl hexine-, n-butyl trimethyl silyl methyl heptine-, n-butyl triethyl silyl methyl heptine-, and n-butyl trimethyl silyl hexine acetal. The alcohols and acetals obtained are given together with their constants in a table. There are 1 table and 2 Soviet references.

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR (Institute of Petroleum-chemical Processes of the Academy of Sciences Azerbaydzhanskaya SSR)

Card 2/3

Investigations in the Field of the Synthesis
and Conversion of Unsaturated Organosilicon
Compounds. VII. Synthesis and Properties
of Some Secondary and Tertiary γ -Silicon-
containing Acetylene Alcohols

S679/60/030/009/005/015
B001/B064

SUBMITTED: September 21, 1959

Card 3/3

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S. 3700

2206

S/079/51/031/001/004/025
B001/B066

AUTHORS:

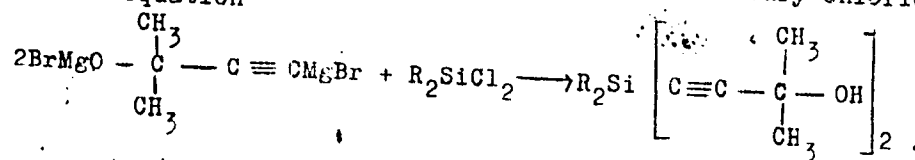
Shikhiyev, I. A., Aliyev, M. I., Aslanov, I. A., and
Garayeva, Sh. V.

TITLE:

Studies in the Field of the Synthesis and Conversions of
Unsaturated Organosilicon Compounds. VIII. Synthesis and
Properties of Some Ditertiary γ -Silicon-containing Acetylene
Glycols

PERIODICAL: Zhurnal obshchey khimii, 1961, Vol. 31, No. 1, pp. 35 - 38

TEXT: In Refs. 1 and 2, the authors studied the reaction of dimagnesium
bromo dimethyl-ethynyl carbinol with dialkyl-(aryl)-dichloro silanes in the
presence of catalytic amounts of copper- and mercury chlorides according
to the equation



Card 1/3

Studies in the Field of the Synthesis and
Conversions of Unsaturated Organosilicon Com-
pounds. VIII. Synthesis and Properties of Some
Ditertiary γ -Silicon-containing Acetylene
Glycols

88477

S/O79/61/031/001/004/025
B001/B066

The presence of two hydroxyl groups in the resultant ditertiary, γ -silicon-containing acetylene glycols was confirmed by their conversion to the corresponding acetyl derivatives. The present paper describes the synthesis of some other branched ditertiary γ -silicon-containing acetylene glycols, the structure of which was also confirmed by conversion to the corresponding acetyl derivatives (Ref. 3) (Table). The following six new compounds of ditertiary, γ -silicon-containing acetylene glycols were synthesized: bis-(3-methyl-pentin-1-ol-3)-dimethyl silane, bis-(3-methyl-pentin-1-ol-3)-methyl-ethyl silane, bis-(3-methyl-pentin-1-ol-3)-methyl-propyl silane, bis-(3,5-dimethyl-hexin-1-ol-3)-dimethyl silane, bis-(3-methyl-heptin-1-ol-3)-dimethyl silane, bis-(3-methyl-heptin-1-ol-3)- γ -silicon-containing acetylene glycols was confirmed by the following new acetyl derivatives obtained from them: bis-(3-methyl-propyl-1-acetoxy-3)-dimethyl silane, bis-(3-methyl-pentin-1-acetoxy-3)-methyl-propyl silane, bis-(3,5-dimethyl-hexine-1-acetoxy-3)-dimethyl silane, bis-

Card 2/3

Studies in the Field of the Synthesis and
Conversions of Unsaturated Organosilicon
Compounds. VIII. Synthesis and Properties
of Some Ditertiary γ -Silicon-containing
Acetylene Glycols

884:7

S/079/61/031/001/004/025
B001/B066

(3-methyl-heptene-1-acetoxy-3)-dimethyl silane, and bis-(3-methyl-heptene-1-acetoxy-3)-diethyl silane. There are 1 table and 3 Soviet references.

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR (Institute of Petrochemical Processes of the Academy of Sciences Azerbaydzhanskaya SSR)

SUBMITTED: February 15, 1960

Card 3/3

30187

S/079/61/031/011/008/015
D228/D305

5.3760

AUTHORS: Shikhiyev, I. A., Aslanov, I. A., and Yusufov, B. G.

TITLE: Synthesis and conversion of primary and secondary monoatomic acetyl- γ -germanium alcohols

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 11, 1961, 3647-3648

TEXT: The authors give the first details of the synthesis and certain properties: 1-triethylgermanopropin-1-ol-3 — $\text{Et}_3\text{GeC}\equiv\text{CMeO}$ (I); 1-triethylgermanohexin-1-ol-3 — $\text{Et}_3\text{GeC}\equiv\text{CCHONPr}$ (II); n-butyltriethylpropylgermanium acetal — $\text{MeCH}(\text{OBuOCH}_2)\text{C}\equiv\text{CGeEt}_3$ (III); and n-butyltriethylhexylgermanium acetal — $\text{MeCH}(\text{OBu})\text{O}(\text{Pr})\text{CHC}\equiv\text{CGeEt}_3$ (IV). In previous research, I. A. Shikhiyev, M. F. Shostakovskiy, I. A. Aslanov, and N. V. Komapov (Ref. 1: Zh. obshch. khimii, 29, 1549, 1959; Ref. 2: Usp. khim., 27, 1504, 1958) developed a method for preparing mono-, duo- and triatomic acetyl- γ -germanium alcohols and proved the presence of

Card 1/2

SHIKHIYEV, I.A.; ASLANOV, I.A.; YUSUFOV, B.G.

Synthesis and conversions of oxygen-containing unsaturated
organogermanium compounds. Part 15: Synthesis of mono-
and diatomic tertiary γ -germanium acetylenic alcohols
and some of their derivatives. Zhur.ob.khim. 32 no.10:3148-3151
0 '62. (MIRA 15:11)

(Alcohols)

(Germanium organic compounds)

ASLANOV, L.A.; NOVOSELOVA, A.V.

Synthesis of barium zirconyl carbonate and preparation of
barium zirconate. Zhur. neorg. khim. 8 no.6:1378-1380 Je '63.
(MIRA 16:6)

(Barium zirconate)
(Zirconium compounds)

S/079/63/033/002/003/009
D204/D307

AUTHORS:

Shikhiyev, I.A. and Aslanov, I.A.

TITLE:

Studies of the synthesis and conversions of unsaturated organosilicon compounds. XVI. Synthesis and properties of some secondary γ -silicon-containing acetylenic alcohols

PERIODICAL:

Zhurnal obshchey khimii, v. 33, no. 2, 1953, 377 - 379

TEXT:

A continuation of earlier work (Novyye kislorodsoderzhashchiye kremneorganicheskiye soyedineniya [New oxygen-containing organosilicon compounds], Baku (1960)). 1-Dimethylethylsilylhexyn-1-ol-3 (I) was prepared by reacting EtHgBr with propylethynylcarbinol in the cold ($\sim 0^\circ\text{C}$), stirring for 5 hrs at room temperature, and treating with EtMe_2SiCl . The complex was then decomposed with HCl . Compounds $\text{R}_3\text{SiC} \equiv \text{C-CHOH-C}_3\text{H}_7$ (where $\text{R}_3 = \text{CH}_3$, $(\text{C}_2\text{H}_5)_2$ (II) or $(\text{C}_2\text{H}_5)_3$ (III)) and $\text{R}_2\text{SiHC} \equiv \text{C-CHOH-C}_3\text{H}_7$ (where $\text{R}_2 = (\text{CH}_3)_2$ (IV); $\text{R}_2 = \text{CH}_3$,

Card 1/2

Studies of the synthesis ...

S/079/63/033/002/003/009
D204/D307

C_2H_5 (V); $R_2 = (C_2H_5)_2$ (VI); $R_2 = CH_3, C_3H_7$ (VII); $R_2 = (iso-C_3H_7)_2$ (VIII); $R_2 = (C_3H_7)_2$ (IX)) were obtained by an analogous procedure, using R_2SiHCl for compounds IV - IX. To demonstrate the presence of the OH group, *n*-butyldimethylethylsilylhexyne acetal (X) was prepared from I and vinylbutyl alcohol in the presence of some 33 % HCl. The temperature was allowed to rise to 55°C and was then held at 90°C for 30 min. Similar acetals were prepared from the other alcohols. All these compounds are new. There is a table.

SUBMITTED:

November 5, 1961

Card 2/2

L 34195-65 ENT(m)/EPF(c)/EMP(j)/T Pc-1/Pr-1 RM
ACCESSION NR: AP5007523

S/0316/64/000/006/0033/0037

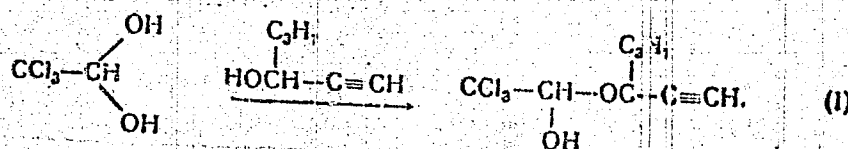
AUTHOR: Shikhiyev, I. A.; Verdiyeva, S. Sh.; Aslanov, I. A.

TITLE: Studies in the field of the synthesis and conversions of oxygen-containing organic and organosilicon compounds. Synthesis of organic and organosilicon trichloroacetals and incomplete acetylenic ethers of chloral hydrate

SOURCE: Azerbaydzhanskij khimicheskiy zhurnal, no. 6, 1964, 33-37

TOPIC TAGS: silicoorganic compound, chloral hydrate ether, acetylenic ether, trichloroacetal, organosilicon trichloroacetal

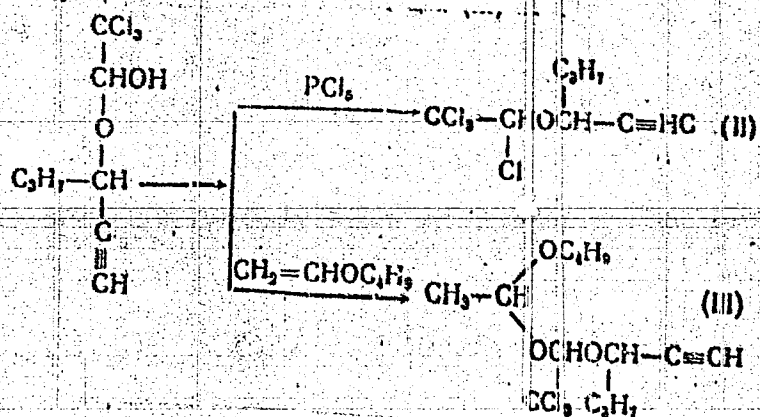
ABSTRACT: The incomplete ether of chloral hydrate (I) and an acetylenic α -chloro ether (II) were obtained and characterized for the first time, and the presence of a hydroxyl group in (I) was established by the formation of the corresponding acetal (III):



Card 1/4

L 34195-65

ACCESSION NR: AP5007523

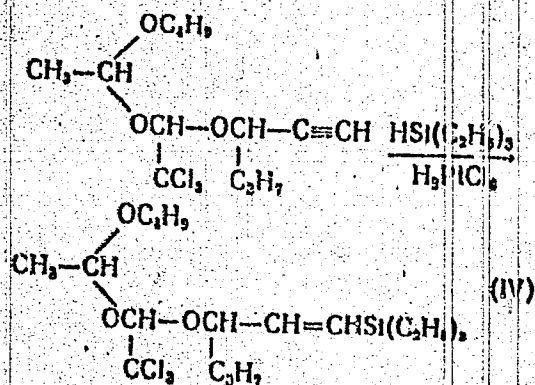


Card 2/4

L 34195-65

ACCESSION NR: AP5007523

The presence of a triple bond in acetal (III) was established by the formation of the corresponding organosilicon acetal (IV).



The experimental procedures employed are fully described, and the physicochemical constants of the products obtained are tabulated. Orig. art. has: 1 table and 12 formulas.

Card 3/4

L 34195-65

ACCESSION NR: AP5007523

ASSOCIATION: None

SUBMITTED: 00

NO REF SOV: 004

ENCL: 00

SUB CODE: 00

OTHER: 000

Card 4/4

ACCESSION NR: AP4018053

S/0079/64/034/002/0394/0396

AUTHOR: Shikhiyev, I. A.; Guseynzade, B. M.; Mekhmandarova, N. T.; Aslanov, I. A.

TITLE: Research in the area of synthesis and conversion of unsaturated silicon germanium organic compounds

17. Synthesis and some conversions of silicon and germanium organic alcohols of the diacetylene series

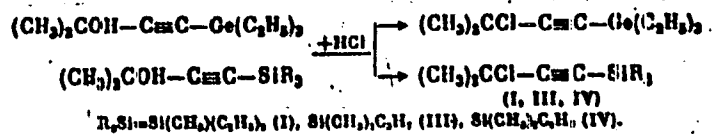
SOURCE: Zhurnal obshchey khimii, v. 34, no. 2, 1964, 394-396

TOPIC TAGS: silicon germanium, synthesis unsaturated silicon germanium, conversion unsaturated silicon germanium, organic alcohol, diacetylene series organic alcohol

ABSTRACT: The synthesis of silicon and germanium organic acetylene chlorides is studied by means of a reaction of gaseous hydrogen chloride with corresponding acetylene alcohols according to:

Card 1/4

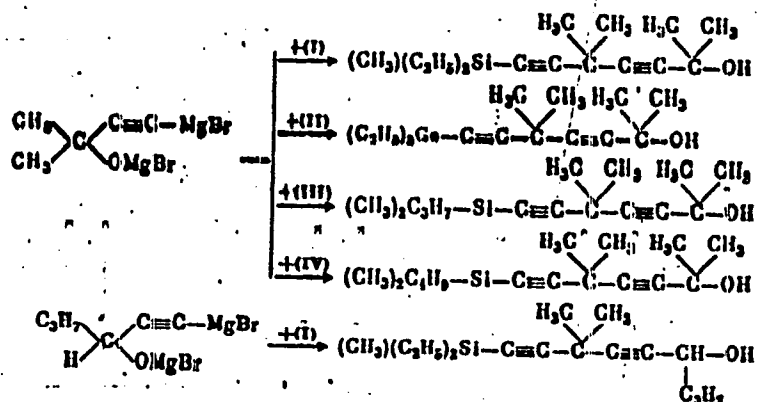
ACCESSION NR: AP4018053



Silicon and germanium organic monoatomic diacetylene alcohols with isolated triple bonds were synthesized by means of the reaction of the corresponding Iotsich reagent of acetylene alcohols with some silicon and germanium organic acetylene chlorides as follows:

Cord 2/4

ACCESSION NR: AP4018053



Four representative silicon and germanium organic acetylene tertiary chlorides are described for the first time: 4-methyldiethylsilicon-2-chlor-2-methylbutine-3; 4-triethylgermanium-2-chlor-2-methylbutine-3; 4-dimethylpropylsilicon-2-chlor-2-methylbutine-3; 4-dimethylbutylsilicon-2-chlor-2-methylbutine-3. Five representative silicon and

Card 3/4

ACCESSION NR: AP4018053

germanium organic monoatomic diacetylene alcohols determined for the first time are also described: 9-methyldiacetylsilicon-7,7-dimethyl-nonadiene-5, 8-ol-4; 7-methyldiethylsilicon-2,5,5-trimethylheptadiene-3,6-ol-2; 7-triethylgermanium-2,5,5-trimethylheptadiene-3,6-ol-2; 7-dimethylpropylsilicon-2,5,5-trimethylheptadiene-3,6-ol-2; 7-dimethylbutylsilicon-2,5,5-trimethylheptadiene-3,6-ol-2. The germanium organic diacetylene acetal n.-butyltriethylgermaniumtetramethylhexadiene-acetal is described for the first time. Orig. art. has: 2 tables.

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR (Institute of Petrochemical Processes, Academy of Sciences Azerbaijan SSR)

SUBMITTED: 19Dec62

DATE ACQ: 19Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 000

Card 4/4

ACCESSION NR: AP4018054

S/0079/64/034/002/0397/0398

AUTHOR: Shikhiyev, I. A.; Aslanov, I. A.

TITLE: Research in the area of synthesis and conversion of unsaturated organogermanium compounds

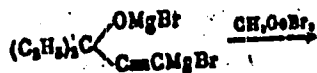
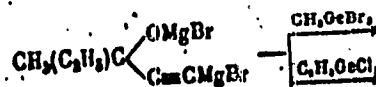
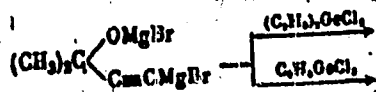
SOURCE: Zhurnal obshchey khimii, v. 34, no. 2, 1964, 397-398

TOPIC TAGS: Iotsich reagent, organogermanium compound, unsaturated compound, synthesis, conversion, ethylgermanium derivative, diethylgermanium derivative, methyl germanium derivative

ABSTRACT: The reaction of the Iotsich reagent (dimagnesiumdibromine-dimethylethynylcarbinol, dimagnesiumdibrominemethylethylethynylcarbinol and dimagnesiumdibrominediethylethynylcarbinol) with different alkyl- and dialkyl-germanium halides was studied. It was established that the reaction proceeds in the direction of forming corresponding di- and trihydric γ -germaniumacetylene alcohols as follows:

Card 3

ACCESSION NR: AP4018054



Card 2/3

ACCESSION NR: AP4018054

Bis(3-methylbutine-1-ol-3)-1-diethylgermanium is described and determined. Four representative germaniumacetylene trihydric alcohols are derived and determined for the first time: tris(6-methylbutine-1-ol-3)-1-ethylgermanium; tris(3-methylpentine-1-ol-3)-1-ethylgermanium; and tris(3-ethylpentine-1-ol-3)-1-methylgermanium. The presence of hydroxyl groups in the composition of ditertiary alcohol is shown by dehydration. The corresponding divinylacetylene organogermanium hydrocarbon bis(2-methylbutine-1-ine-3)-4-diethylgermanium is obtained. Orig. art. has: 1 table.

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR (Institute of Petrochemical Processes, Academy of Sciences, Azerbaidzhan SSR)

SUBMITTED: 19Dec62

DATE ACQ: 19Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 003

OTHER: 000

CoB/3

L 54618-65 EMT(m)/EPF(c)/ENP(j)/T Pc-4/Py-4 RA
 ACCESSION NR: AP5008837 S/0079/65/035/003/0459/0461

AUTHOR: Shikhiyev, I. A.; Aslanov, I. A.; Nekhmandarova, N. T.

TITLE: Studies in the field of synthesis and transformations of unsaturated germanium organic compounds. Synthesis and conversions of some monohydric germanium organic diacetylene alcohols with isolated triple bonds

SOURCE: Zhurnal obshchey khimii, v. 35, no. 3, 1961, 459-461

TOPIC TAGS: germanium organic compound, organic synthesis

ABSTRACT: The article describes the synthesis of some representatives of germanium organic monohydric diacetylene alcohols with isolated triple bonds using an appropriate Iotsich reagent and germanium organic acetylenic chloride of 5-triethylgermanium-3-methyl-3-chloropent-4-yne according to the reaction

$$\text{BrMgOC}(\text{R}_1)\text{C}\equiv\text{CMgBr} + (\text{C}_2\text{H}_5)_3\text{GeC}\equiv\text{C}(\text{CH}_3)(\text{C}_2\text{H}_5)\text{Cl} \rightarrow (\text{C}_2\text{H}_5)_3\text{GeC}\equiv\text{C}-(\text{CH}_2)(\text{C}_2\text{H}_5)\text{C}\equiv\text{C}-\text{C}(\text{R}_1)\text{OH}$$

 The presence of a hydroxyl group in the obtained compounds was proved through acetylation by reacting diacetylene alcohol with vinylbutyl ether. The article gives physical constants for the synthesized compounds. Orig. art. has: 1 table.

Card 1/2

L 54618-65

ACCESSION NR: AP5008897

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy
SSR (Institute of Petrochemical Processes, Academy of Sciences Azerbaijan SSR)

SUBMITTED: 24Dec63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 000

Cord 2/2

SHIKHIYEV, I.A.; ASLANOV, I.A.; MEKHMANDAROVA, N.T.; VERDIYEV, S.Sh.

Synthesis and transformations of unsaturated organogermanium
and organosilicon compounds. Azerb.khim.zhur. no.4:42-44 '65.
(MIRA 18:12)

1. Institut neftekhimicheskikh protsessov AN AzSSR. Submitted
December 7, 1964.

SHIKHIYEV, I.A.; MEKHMANDAROVA, N.T.; ASLANOV, I.A.

Synthesis and transformations of unsaturated organosilicon compounds. Azerb. khim. zhur. no. 2:59-63 '65. (MIRA 18:12)

1. Institut neftekhimicheskikh protsessov AN AzerSSR.

ACC NR: AT6023360

SOURCE CODE: UK/5019/65/000/004/0044/0062

AUTHOR: Aslanov, I. A.; Davudov, Yu. D.; Salmanov, I.

ORG: none

TITLE: Computation of the optical depths of TiI lines in the solar spectrum

SOURCE: Shemakha. Astrofizicheskaya observatoriya. Soobshcheniya, no. 4, 1965. Fizika Solntsa (Physics of the sun), 44-62

TOPIC TAGS: solar spectrum, spectral line, spectrographic analysis

ABSTRACT: The optical depth at which the emission of spectral lines of neutral Ti occurs in the atmosphere of the sun is given in tabular form. The table includes the multiplet number, the transition levels wavelength of the line and its relative width as well as the excitation potential and the two optical depths. These two depths differ by a small amount (their ratios are given - the smallest being about one-tenth) and represent differing defining criteria. The method of determining the optical depths is reviewed briefly. Essentially, it follows the method developed for the spectral lines of the neutral iron. Since neither line intensity nor its excitation potential give unique answers to the question as to where in the atmosphere of the sun a given line originates, this work should be useful in constructing a realistic model of the atmosphere of the sun. Orig. art. has: 1 table.

SUB CODE: 03/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 005
Card 1/1

MANUYLOVA, M.M.; ASLANOV, I.K.; TURENT'YEVA, M.V.

Characteristics of the geological position and mineralization
of the rare-metal pegmatites of one of the regions in Siberia.
Trudy lab. geol. dokem. no.19:322-331 '64 (MJRA 17:8)

ASLANOV, I.N.

Stratigraphy of Maikop deposits in the Kirovabad oil fields. Dokl,
AN Azerb. SSR 12 no.11:831-836 '56. (MLRA 10:3)

1. Institut geologii AN Azerbaydzhanskoy SSR. Predstavleno akademikom
AN Azerbaydzhanskoy SSR M.M.Aliyevym.
(Kirovabad--Petroleum geology)

ASLANOV, I.N.

New species and varieties of mollusks from lower Oligocene deposits of the northeastern piedmont of the Lesser Caucasus in the Azerbaijan S.S.R. Trudy Inst. geol. AN Azerb. SSR 17:146-171 '56.
(Caucasus--Mollusks, Fossil) (MIRA 10:4)

ASLANOV, I. N.
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, 15-57-1-127
p 18 (USSR)

AUTHOR: Aslanov, I. N.

TITLE: New Species and Varieties of Mollusks From the Lower
Oligocene Deposits in the Northeastern Foothills of the lesser
Caucasus, Azerbaydzhan SSR [Novyye vidy i razno-
vidnosti fauny mollyuskov iz nizhneoligotsenovykh
otlozheniy severo-vostochnykh predgoriy Malogo
Kavkaza (Azerbaydzhanskaya SSR)]

PERIODICAL: Tr. In-ta geol. AN AzerbSSR, 1956, Vol 18, pp 146-171

ABSTRACT: The article describes 16 new species and four new
varieties found among the well preserved fossils from
near the villages of Gyurzallar, Karachinar and Zeyva.
They are: Nucula Lorobkovi, Nuculana azerbaydjanica,
N. subgaliettiana, Arca elongata, A. assimetrica.

Card 1/2

15-57-1-127

New Species and Varieties of Mollusks (Cont.)

Pecten dychotomacostatus, Chlamys microreticulata, Palliolium undatum, Astarte tricostata, Pteromeris carditaformis, Carcliomya bisculpta, pecchiolia alizadei, Cultellus gladiusoides, Emarginula deltogibba, Eucycloscola gursalarica, Siliqua harmatica oligocaenica var, n. and others. The major part of the described fauna was collected from the complex of greenish gray carbonate clays in the upper part of the section near the village of Gyurzallar. The article contains two tables and a bibliography of 32 titles.
Card 2/2 R. L. M.

ASLANOV, I.H.

Paralleling the profiles of lower Maikop and establishing the
age of the 3d Kazan-Kulak horizon in the Kirovabad oil fields.
Izv.AN Azerb.SSR no.4:63-70 Ap '57. (MIRA 10:8)
(Kirovabad--Petroleum geology)

ASLANOV, I.N.

Some representatives of mollusks from lower Oligocene sediments
in the northeastern foothills of the Lesser Caucasus [in Azerbaijani
with summary in Russian]. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk:
no.3:29-40 '58. (MIRA 11:12)
(Caucasus--Mollusks, Fossil)

ISHBAYEV, A.I.; SADYKOV, A.S.; ASLANOV, Kh.A.

Alkaloids of the C_{15} series. Part 10: Hydrogenation of
aphyllidine and aphyllidinic acid. Zhur.ob.khim. 33 no.2:
687-689 F '63. (MIRA 16:2)

1. Tashkentskiy gosudarstvennyy universitet imeni V.I.Lenina.
(Aphyllidine) (Aphyllidinic acid) (Hydrogenation)

SADYKOV, A.S.; ISHBAYEV, A.I.; ASLANOV, Kh.A.; MIRZAABDULLAYEV, A.B.

Alkaloids of the C₁₅ series. Part 11: Transformation of
aphyllidinic acid to pachycarpine (d-sparteine). Zhur.ob.
khim. 33 no.2:689-693 F '63. (MIRA 16:2)

1. Tashkentskiy gosudarstvennyy universitet im. V.I.Lenina.
(Aphyllidinic acid) (Pachycarpine)

AGLAKOV, Kh. A.

Dissertation: "Chemical study of 'alivan' alkaloids." Casp. Chem. Soc., Central Asia
State University, 3 July 54. (Pravda Vostoka, Tashkent, 22 Jan 54)

SO: SUM 318, 23 Dec 1954

ASLANOV, KH. A.

USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic
Analogues, E-3

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61658

Author: Aslanov, Kh. A., Sadykov, A. S.

Institution: None

Title: Investigation of the ^{Alkaloids} Alkaloids of Fritillaria. I. On Alkaloids of
Fritillaria Raddeana Rad

Original

Periodical: Zh. obshch. khimii, 1956, 26, No 2, 579-583

Abstract: From bulbs of Fritillaria Raddeana collected in May have been iso-
lated 0.85-0.90% of total alkaloids (TA) on separation of which were
obtained: raddeanine (I), 42% of TA (Zh. obshch. khimii, 1943, 13,
159) and 3 new alkaloids, No 5 (II), raddeanine (III) and alvanidine
(IV). From bulbs gathered in July were isolated 0.7-0.75% TA. After
separation of TA were obtained: I (64% of TA) and 2 new alkaloids,
No 6 (V) and alvanine (VI). I, $C_{24}H_{39}O_2N$ contains 2 OH-groups: I
with CH_3COCl in the cold yields monoacetylraddeanine, MP 115-116°;

Card 1/2

USSR/Organic Chemistry - Naturally Occurring Substances and Their Synthetic
Analogues, E-3

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61658

Abstract: on heating diacetylraddeanine MP 172-174°. On heating I with $(C_6H_5CO)_2O$ was obtained monobenzoylraddeanine, MP 236-238°. On action of C_6H_5COCl on I in pyridine was obtained dibenzoylraddeanine MP 190-192°. II, yield 0.04% [sic] MP 245-247° (from petroleum ether). III, yield 0.014%, $C_{23}H_{37}O_2N$, MP 271-272° (from acetone); hydrochloride MP 235-236° (from alcohol). IV, yield 0.01%, $C_{20}H_{33}O_2N$, MP 235-236° (from alcohol); hydrochloride MP 174-175° (from alcohol-acetone). V, hydrochloride MP 197-199° (from water). VI, yield 0.008%, $C_{26}H_{43}O_3N$, MP 185-187° (from acetone); hydrochloride MP 163-165° (from absolute alcohol).

Card 2/2

ASLANOV, Kh. A.

ASLANOV, Kh. A.; SADYKOV, A. S.

Fritillaria alkaloids. Part 2: The chlorination products of raddeanine.
Zhur.ob.khim. 26 no.6:1790-1793 Je '56. (MIRA 11:1)

1. Sredneaziatskiy gosudarstvennyy universitet.
(Chloronation) (Alkaloids)

Aslanov, Kh. A.

ASLANOV, Kh.A.

Fritillaria alkaloids. Part 3: The structure of raddeanine.

Zhur.ob.khim. 26 no.6:1798-1808 Je '56.

(MIRA 11:1)

1. Institut khimii AN Ubeyskoy SSR.
(Delphonine)

SADYKOV, A.S.; ASLANOV, Kh.A.; TURSUNBAYEV, T.

Condensation of lupinic acid with piperidine. Zhur.ob.khim. 30
no.10:3496-3499 0 '61. (MIRA 14:4)

1. Sredneaziatskiy gosudarstvennyy universitet.
(Lupinic acid) (Piperidine)

SADYKOV, A.S., akademik; KUSHMURADOV, Yu.K.; ASLANOV, Kh.A.

Structure of isosophoramine. Dokl.AN SSSR. 145 no.4:829-830
Ag '62. (MIRA 15:7)

1. Tashkentskiy gosudarstvennyy universitet im. V.I.Lenina.
2. AN Uzbekskoy SSR (for Sadykov).
(Sophoramine)

ASLANOV, Kh.A.; KASYMOV, T.K.; SADYKOV, A.S.

On alkaloids of local potatoes. Uzb. khim. zhur. 7 no.2:35-
38 '63. (MIRA 16:8)

1. Tashkentskiy gosudarstvennyy universitet imeni Lenina.
(Potatoes) (Alkaloids)

KUSHMURADOV, Yu.K.; SADYKOV, A.S.; ASLANOV, Kh.A.

Alkaloids of the C₁₅ series. Part 13: Structure of isosophoramine. Zhur. ob. khim. 33 no.5:1683-1685 My '63.
(MIRA 16:6)

1. Tashkentskiy gosudarstvennyy universitet imeni V.I. Lenina.
(Sophoramine)

SADYKOV, A.S.; KARIMOV, M.; ASLANOV, Kh.A.

New synthesis of quinuclidine. Zhur.ob.khim. 33 no.10:3414-3417 0 '63.

Synthesis on the basis of anabasine. Part 18: (A) -Quinuclidyl-
β -pyridine. 3417-3420 (MIRA 16:11)

1. Institut Khimii polimerov AN UzSSR i Tashkentskiy gosudarstvennyy universitet imeni V.I.Lenina.

ASLANOV, Kh.A.; SADYKOV, A.S.; REGISHEVA, A.I.

Alkaloids from *Sophora aloplicuroides*. Nauch.trudy TashGU no.263.
Khim.nauki no.13:20-23 '64. (MIRA 18:8)

SADYKOV, A.S., akademik; ISHBAYEV, A.I.; ASLANOV, Kh.A.

Certain problems involved in the stereochemistry of quinolizidine alkaloids. Dokl. AN SSSR 155 no. 4:865-867 Ap '64. (MIRA 17:5)

1. Tashkentskiy gosudarstvennyy universitet im. V.I. Lenina.
2. AN Uzbekskoy SSSR (for Sadykov).

ABDUSALAMOV, B.; SADYKOV, A.S.; ASLANOV, Kh.A.

Alkaloids and amino acids in some species of Calligonum minimum.

Nauch.trudy TashGU no.263.Khim.nauki no.13:3-7 '64.

(MIRA 18:8)

ISHRAYEV, A.I.; SADYKOV, A.S.; ASLANOV, Kh.A.

Alkaloids of the C_{15} series. Part 14: Dehydrogenation of apaylline
and the synthesis of d- α -isoaphylline. Zhur. ob. khim. 35 no.1:
194-197 Ja '65. (MIRA 18:2)

1. TashkentSKIY gosudarstvennyy universitet Imeni V.I. Lenina.

SADYKOV, A.S.; KARIMOV, M.; ASLANOV, R.H.A.

Synthesis on an anabasine base. Part 19: Synthesis of 7-methylquinuclidane and α -(7-methylquinuclidyl) β -pyridine. Zhur. b. khim. 34 no.12:4104-4107 D '64 (MIRA 18 L)

1. Tashkentskiy gosudarstvennyy universitet im. V.I. Lenina.

ASLANOV, L. A.

ACCESSION NR: AP3001216

S/0078/63/008/006/1378/1380

AUTHOR: Aslanov, L. A.; Novoselova, A. V.

TITLE: Synthesis of barium zirconyl carbonate and formation of barium zirconate

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 6, 1963, 1378-1380

TOPIC TAGS: ferroelectric materials, synthesis of $\text{BaZr}(\text{CO sub 3}) \text{ sub 2}$ and BaZrO sub 3 , firing temperature of $\text{BaZrO}(\text{CO sub 3}) \text{ sub 2}$, x-ray and chemical analysis

ABSTRACT: Barium zirconyl carbonate (BZC) has been synthesized for the first time by the reaction given in formula (1) of Enclosure. With a view toward adapting a previously reported method (W. S. Clabaugh, E. M. Swiggard, R. Gilchrist. J. Res. Nat. Bur. Standards, v. 56, 289 (1956)) for synthesizing ferroelectric material (BaTiO sub 3) and obtaining products possessing a high dielectric constant and a low firing temperature, BZC was thermally

Card 1/4

ACCESSION NR: AP3001216

treated at 1100C to form a mixture of BaZrO sub 3 and ZrO sub 2. X-ray phase analysis confirmed the formation of both products. Chemical analysis of BZC showed that the molar ratio of BaO to ZrO sub 2 was close to 1; the composition of BZC was concluded to be BaZrO(CO sub 3) sub 2 1.5H sub 2 O. X-ray analysis of a BZC sample dried at 100C revealed to be amorphous. To obtain BZC with a molar ratio of BaO to ZrO sub 2 of 1, the reaction rate must be rapid with vigorous agitation, and a 50--55% excess of ammonium hydrocarbonate is necessary. Product yield under these conditions was 50 plus or minus 3%. Attempts were made to obtain the pure form of BaZrO sub 3 by dissolving BZC in the following acids: HCl (1:50), CH sub 3 COOH (1:20), a 2% solution of CH sub 3 COOH in an H sub 2 O--acetone mixture (1:1), and a 10% NH sub 4 Cl solution. Formation of BaZrO sub 3 and ZrO sub 2 mixtures along with hydrolysis of the zirconates took place. The optimal condition for obtaining BaZrO sub 3 with approximately 1% ZrO sub 2 was found to be firing of BZC at 1100C. To determine the ZrO sub 2 content, BaZrO sub 3 was dissolved in concentrated HCl. ZrO sub 2 was found in the amount of 0.7--0.9%. X-ray analysis of the resultant BaZrO sub 3 revealed only the presence of narrow lines corresponding to BaZrO sub 3, with highly resolved doublets. The elemental unit cell value of $a = 4.197$ plus or minus 0.01

Card 2/4

ACCESSION NR: AP3001216

Angstroms is in agreement with previously reported data. An attempt to form calcium and strontium zirconates by the same experimental procedure was not successful. Orig. art. has: 4 formulas and 3 tables.

ASSOCIATION: none

SUBMITTED: 16Nov62

DATE ACQ: 01Jul63

ENCL.: 01

SUB CODE: 00

NO REF SOV: 007

OTHER: 005

Card 3/4

ACCESSION NR: AP3001216

ENCLOSURE: 01



Card 4/4

L 17828-63

ENP(q)/EWT(m)/BDS AFFTC/ASD RIW/JE

ACCESSION NR: AP3004340

8/0078/53/008/008/1801/1805 57

AUTHOR: Aslanov, L. A.; Ukrainskiy, Yu. M.; Simanov, Yu. P. (Deceased)

TITLE: Tantalum diselenide and triselenide 27

SOURCE: Zhurnal' neorganicheskoy khimii, v. 8, no. 8, 1963, 1801-1805

TOPIC TAGS: chalcogenide, transition metal, transition metal chalcogenide, diselenide, triselenide, tantalum-selenium system, tantalum diselenide, tantalum triselenide, semiconductor, crystalline structure, phase composition, electrical conductivity, thermal emf, lattice parameter, nonstoichiometric tantalum diselenide, beta modification, delta modification, beta-tantalum disulfide, delta-tantalum disulfide

ABSTRACT: Crystalline structure, phase composition, electrical conductivity, and thermal emf have been determined for a series of synthetic samples in the $TaSe_2$ -- $TaSe$, composition range. The study was initiated in view of the known semiconductor properties of certain transition metal chalcogenides and the incomplete data in the literature on phase composition in the Ta -- Se system. The samples were synthesized from the elements in evacuated quartz ampoules. Chemical and

Card 1/2 2

L 17828-63

ACCESSION NR: AF3004340

microscopic analysis of samples prepared by sintering at 750C followed by gradual cooling revealed the existence of two phases, TaSe₂ whiskers and TaSe_{1.98} lamellar structure with a hexagonal unit cell. The x-ray powder patterns of a TaSe_{1.98} sample prepared by sintering at 850C and gradual cooling, and of the same sample reheated at 900C and then sublimed in a vacuum at 1100C, made it possible to distinguish β - and δ -crystalline modifications of TaSe_{1.98} having the lattice parameters $a = 3.429 \text{ \AA}$, $c = 12.73 \text{ \AA}$ and $a = 3.46 \text{ \AA}$, $c = 37.9 \text{ \AA}$, respectively. A structural analogy is drawn between the β - and δ -TaSe_{1.98} and β - and δ -TaS₂. Stoichiometric TaSe₂ was obtained by water-quenching of the sample from 750C. The TaSe₂ crystals were found to belong to a hexagonal system with lattice parameters $a = 3.44 \text{ \AA}$ and $c = 6.27 \text{ \AA}$. Only two phases were detected over the entire TaSe_{1.98}-TaSe_{2.00} composition range. The relatively high electrical conductivity of β -TaSe_{1.98} and TaSe₂ (80 and 150 $\text{ohm}^{-1} \times \text{cm}^{-1}$, respectively) and the low thermal emf (e.g., 0 for TaSe₂-alumel thermocouple) lead to the conclusion that the chemical bond in tantalum diselenide and triselenide is essentially metallic in character. "In conclusion, the authors express their deep gratitude to A. V. Novoselova for her valuable advice and continuing interest in the work." Orig. art. has: 3 tables.

Card 2/3

ASLANOV, L.A.; SIMANOV, Yu.P. [deceased]; NOVOSILCVA, A.V.; UKRAINSEIY.
Yu.M.

Tantalum triselenide and trisulfide. Zhur. neorg. khim. 8 no.12:
2635-2637 D '63. (MIRA 17:9)

ACCESSION NR: AP4043583

S/0078/64/009/008/2022/2023

AUTHOR: Aslanov, L. A.

TITLE: $ABSe_3$ -type selenides

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 8, 1964, 2022-2023

TOPIC TAGS: triselenide, triselenide preparation, selenide, divalent metal selenide, mixed selenide, semiconductor

ABSTRACT: A study has been made of selenides of the $ABSe_3$ type, where $A=Ca, Sr, Ba, Zn, Cd, \text{ and } Pb$, and $B=Ti, Zr, \text{ and } Ta$, because of the absence of literature data on such compounds. $CaSe, SrSe, BaSe, ZnSe, CdSe, \text{ or } PbSe$ were sintered with $Ta, Ti, \text{ or } Zr$ powder and Se in evacuated quartz ampuls at temperatures up to 900°C for four weeks. Then the preparations were cooled to room temperature in one and a half weeks. X-ray phase analysis of the preparations showed that $ZnSe, CdSe, CaSe, SrSe, \text{ and } PbSe$ do not react with $TaSe_2, TiSe_2, \text{ or } ZrSe_2$. The lattice parameters of $BaTaSe_3, BaTiSe_3, \text{ and } BaZrSe_3$ were determined from x-ray powder diffraction patterns. Comparison of these parameters and of space groups with those determined earlier for $CsNiCl_3$ suggests that $BaTaSe_3, BaTiSe_3, \text{ and } BaZrSe_3$ have the same structure as $CsNiCl_3$ and,
Cord 1/2

L 20682-65 EWP(m)/EWP(b)/EWP(t) IJP(c) RDH/JD/JG
ACCESSION NR: AP4044816 S/0078/64/009/009/2264/2265

AUTHOR: Aslanov, L. A.; Novoselova, A. V.; Ukrainskiy, Yu. M.;
Simanov, Yu. P.

TITLE: Variable composition phases in the tantalum-selenium system

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 9, 1964, 2264-2265

TOPIC TAGS: tantalum⁷ selenium⁷ system, variable phase composition, tantalum
selenide, tantalum diselenide

ABSTRACT: The phase relationships in the Ta-Se system in the composition region $\text{TaSe}_{1.0-2.0}$ were investigated. Samples were prepared by heating the Ta and Se in evacuated quartz ampoules at 800C for 400 hours and cooling slowly to room temperature. In compositions in the region $\text{TaSe}_{1.98-1.67}$ x-ray powder diagrams showed the presence of beta-, gamma- and delta- modifications. On prolonged heating the beta-modification decreased while the gamma- and delta- increased; the $\beta \rightarrow \gamma$ transitions occurred in the samples richer in Ta, while $\beta \rightarrow \delta$ occurred only near the composition $\text{TaSe}_{1.98}$. Hence the beta-modification.

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L 20682-65

ACCESSION NR: J24044816

is metastable in the $\text{TaSe}_{1.98-1.67}$ region; the solid solutions based thereon are converted to the stable gamma- and delta-modifications. Examination of the parameter c of the unit cell of the tantalum selenides in this region showed c for the beta-modification increased, while for gamma- it decreased as the tantalum content increased. There was no change in c on heating tantalum selenides in the region $\text{TaSe}_{1.63-1.50}$, hence compositions $\text{TaSe}_{1.50-x}$, where 1.63×1.67 , are stable. $\text{TaSe}_{1.38}$ showed lines of transition to $\text{TaSe}_{1.00}$ and did not fit the hexagonal unit cell. $\text{TaSe}_{1.00}$ was volatile in vacuum above 900°C and reacted with glass, while $\text{TaSe}_{1.50}$ did not. Orig. art. has: 1 figure

ASSOCIATION: None

SUBMITTED: 12Oct63

ENCL: 00

SUB CODE: SS, GC

NO REF SOV: 002

OTHER: 007

Card 2/2

L 11268-65 EWT(m)/EWP(x)/EWP(b) IJP(c) JD/RM

ACCESSION NR: AP4046454

S/0078/64/009/010/2441/2445

AUTHOR: Aslanov, L. A.; Kovba, L. M.

TITLE: Barium-tantalum, barium-titanium, and barium-zirconium sulfides B

SOURCE: Zhurnal neorganicheskoy khimii, v. 9 no. 10, 1964, 2441-2445

TOPIC TAGS: barium tantalum sulfide, barium titanium sulfide, barium zirconium sulfide, ternary compound structure, sulfide semiconductor property

ABSTRACT: BaTaS_3 , BaTiS_3 , and BaZrS_3 have been synthesized, and their crystal structure and certain of their electrical properties have been determined. The x-ray diffraction patterns of pure BaTaS_3 and BaTiS_3 powders and of their mixtures with pyrex powders were indexed, and the parameters of the hexagonal unit cell were calculated. Comparison of the experimental data with the data available for CsNiCl_3 and with theoretical values of the square modulus made it possible to conclude that BaTaS_3 and BaTiS_3 are isostructural with

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L 11368-65

ACCESSION NR: AP4046454

2

CsNiCl₃ and hence belong to the LiJ·3H₂O structural type. Two different crystal structures were detected in BaZrS₃ by indexing x-ray diffraction patterns: a tetragonal structure in BaZrS₃ synthesized at 800C, and a cubic structure in BaZrS₃ synthesized at 900C. The high-temperature modification had a perovskite-type structure, with lattice constant $a = 2 \times 4.990$. Measurements of the electric conductivity and thermal emf indicated the semiconductor properties of BaTiS₃, and hence the predominance of covalent bonding. A positive coefficient of thermal emf was found in BaTaS₃, but the absolute value of its thermal emf is closer to that of metals. Orig. art. has: 2 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 12Oct63

ATD PRESS: 3114

ENCL: 00

SUB CODE: 1C, SE

NO REF SOV: 004

OTHER: 001

Card 2/2

ACC NR: AP6032981

SOURCE CODE: UR/0078/66/011/010/2400/2401

AUTHOR: Butman, L. A.; Aslanov, L. A.; Poray-Koshits, M. A.

ORG: none

TITLE: X-ray structural analysis of lanthanum, europium, and gadolinium benzoylacetonates

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 10, 1966, 2400-2401

TOPIC TAGS: organometallic compound, ~~organoeuropium~~ compound, ~~organolanthanum~~ compound, ~~organogadolinium~~ compound, x ray diffraction, *crystal structure analysis, crystal lattice parameters*

ABSTRACT: Space groups and lattice parameters of four rare-earth complexes with organic ligands have been determined from x-ray diffraction data. The formula of the complexes studied was $HA^+[LnTBA]^-$, where HA^+ is piperidinium (P) or diethylammonium (DEA) radicals, Ln - Eu, La, or Gd, and TBA - four benzoylactonate radicals. The DEA-Eu-TBA complex was found to be isostructural with the DEA-La-TBA complex, while the P-Eu-TBA complex was not isostructural with the P-Gd-TBA complex. This was also confirmed by the difference in cleavage of the crystals of P-Eu-TBA and P-Gd-TBA complexes: the P-Gd-TBA complex crystals do not display any noticeable cleavage. Both P-Eu-TBA and P-Gd-TBA were more resistant to irradiation by x-rays than the DEA com-

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UDC: 547.572.3'654+547.572.3'661+547.572.3'662]:539.26

ACC NR: AP6032981

plexes. As the mechanically strongest and the most radiation-resistant of the four complexes, the P-Gd-TBA complex was singled out for further study of the structure of the rare-earth metal tetrabenzoylacetates. Orig. art. has: 1 table.

SUB CODE: 07, 20/ SUBM DATE: 11Jan66/ OTH REF: 001

Card 2/2

POLYAK, A.A.; ASIANOV, M.G., redaktor; KUZNETSOV, A.A., redaktor; TARASENKO,
P.I., ~~tekhnicheskii~~ redaktor

[Physical geography of Afghanistan] Fizicheskaya geografiya Afgani-
stana; uchebnoe posobie. [Moskva] Izd-vo Moskovskii institut vostoko-
vedeniia, 1953. 274 p. (MLRA 9:2)
(Afghanistan--Physical geography)

ASLANOV, M. G.

"Afranskiye narodnye pover'ya o rasteniyakh ('Alkhimicheskiy kust' i dr.)."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

ABDULLAYEV, A.A.; ALIYEV, T.M.; ASLANOV, M.M.; YEDUSH, V.Ya.; MAL'YAN, V.M.;
NABIYEV, M.A.; TER-KHACHATUROV, A.A.

ChTP-1 remote control and dispatcher control system for beam
wells. Azerb. neft. khoz. 40 no.9:39-41 S 61. (MIRA 15:1)
(Oil wells--Electronic equipment)
(Remote control)

ABDULLAYEV, A.A.; NABIYEV, I.A.; ASLANOV, M.M., red.; RASHEVSKAYA,
T.A., red.izd-va; AKHMEDOV, S., tekhn.red.

[System of automatic remote control measurement of the yield
of oil wells] Sistema avtomaticheskogo teleizmereniia debita
neftianykh skvazhin. Baku, Azerbaidzhanskoe gos.izd-vo,
1963. 207 p. (MIRA 16:12)
(Remote control) (Petroleum production)

ABDULLAYEV, A.A.; ALIYEV, T.M.; ASLANOV, M.M.; MAL'YAN, V.M.; TER-KHACHATUROV,
A.A.

Control system for the introduction of remote control in oil
wells. Mash. i neft. obor. no.11:10-17 '63 (MIRA 17:7)

1. Nauchno-issledovatel'skiy i proyektnyy institut po komplek-
snoy avtomatizatsii proizvodstvennykh protsessov v neftegany i
khimicheskoy promyshlennosti.

ASLANOV, N.N.

Some chemical and physicochemical properties of the mechanical
fractions of soils on the "Druzhba" State Farm. Nauch. trudy
Tash GU no.204:191-200 '62. (MIRA 17:9)

ASLANOV, R. I.

PA 252T30

USSR/Medicine - Infectious Diseases

Apr 53

"Critical Remarks in Regard to N.I. Ragoza's Paper on the Classification of Clinical Forms of Brucellosis," M.L. Feder, R.I. Aslanov

Zhur Mikro, Epid, i Immun, No 4, pp 69-72

In regard to Ragoza's article in Klin Med, (Vol 39, No 2, 1952, pp 5-19), the primary latent stage of brucellosis cannot be identified with the incubation period: the patients often recover before the disease assumes an acute form. People who exhibit pos sero-allergic reactions often do not have brucellosis; they may be immune due to prior

252T30

contact with infected cattle. One cannot agree with Ragoza that the acute septic period often does not occur prior to chronic brucellosis. Ragoza's differentiation between the secondary latent form and the chronic form is not convincing. Ragoza is too pessimistic in assuming that recurrence of the disease is unavoidable after the secondary latent period. There is no reason to regard brucellosis as a chronic disease: when treatment with vaccine (which is not a specific remedy) has been applied early enough, brucellosis in 70% of the cases ends with the acute septic period. Clinical brucellosis of humans occurs very rarely as a result of infection with Br. abortus bovis.

252T30

L 11547-66 EWT(d)/EWP(k)/EWP(1)

ACC NR: AP6005029

SOURCE CODE: UR/0105/65/000/001/0091/0092

AUTHOR: Azimov, B. A.; Alizade, A. A.; Aslanov, R. K.; Guseynov, F. G.;
Dzhuvarly, Ch. M.; Yel'yashevich, Z. B.; Kadymov, Ya. B.; Kulizade, K. N.;
Kyazimzade, Z. I.; Mamikonyants, L. G.; Petrov, I. I.; Rustamzade, P. B.;
Spirin, A. A.; Syromyatnikov, I. A.; Esibyan, M. A.; Efendizade, A. A.

ORG: none

TITLE: Professor Boris Maksimovich Flyushch

SOURCE: Elektrichestvo, no. 1, 1965, 91-92

TOPIC TAGS: electric engineering, electric engineering personnel, petroleum
engineering personnel, petroleum engineering

ABSTRACT: Brief biography of subject, a doctor of technical sciences and head of
Department of Electric Power and Automation in Industry at the Azineftekhim
(Azerbaijdzhan Petrochemical Institute), on the occasion of his 60th birthday in
October 1964. Graduating from Azerbaijdzhan Polytechnical Institute imeni
Azizbekov, subject worked in Caspian shipping industry and later headed the designing
division at the Azerbaijdzhan department of Elektroprom. With Azineftekhim since
1927, starting as laboratory assistant; department head since its formation in
1938; deputy dean of power engineering division in 1943-45. One of top Soviet
experts on the electric power supply and electrical equipment of the petroleum
industry, he has trained many engineers and scientists for this field and is the
author of over 60 published works and inventions. Widely known are his works on

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UDC: 621.313.1/:3

30
29
B

L 11547-66

ACC NR: AP6005029

determining power losses in drilling. He was the first to investigate the problem of selecting the most suitable power characteristics with due consideration for wave-like torque distribution along the drilling string. He did research on the automatic regulation of drill feed, critical roller-bit speeds, self-starting electrical pumps, etc. A party member since 1945, subject has been awarded the Order of the Red Banner of Labor. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09, 13 / SUM DATE: none

HW
Card 2/2

ABASOV, M.T.; KULIYEV, A.M.; ASLANOV, R.T.

Comparing average saturation with edge saturation in saturated
oil flow. Azerb.neft.khoz. 41 no.2:23-25 F '62. (MIRA 15:8)
(Oil reservoir engineering)

OGANDZHANYANTS, V.G.; ASLANOV, R.T.; KURMAYEV, Sh. Kh.

Method for the experimental study of the effect of well spacing
on the water flooding of petroleum from a nonuniform bed. Trudy
VNII no.42:30-42 '65. (MIRA 18:5)

11(0)

AUTHOR: Aslanov, S.A. and Yanttsen, B.F.

SOV/93-58-11-6/15

TITLE: About Planning the Rates of Drilling
(O planirovani skorostey v bureni)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 11, pp 30-33 (USSR)

ABSTRACT: Planned commercial drilling rates are primarily based on statistical analysis and inadequately relate to planned increases in labor productivity. This method is faulty and it is suggested that the planned commercial drilling rate be based on labor productivity and standard drilling rate. The new method requires that the planned commercial drilling rate satisfy two conditions expressed by the following formulas: 1) $Y_{pl} = \frac{R_{pl}N}{12}$ and 2) $Y_{pl} = \frac{Y_n}{K_p}$,

where Y_{pl} is the planned commercial drilling rate,

R_{pl} - labor productivity or planned output per driller per annum, N - planned number of workers per rig-month, 12 - number of months per year, Y_n - conventional drilling rate based on prevailing technical standards, and K_p - the coefficient of excess in conventional over planned drilling rate. A correspondence of the results from the two equations will signify that the ratio of commercial drilling rate to labor productivity is maintained.

Card 1/2

About Planning the Rates of Drilling

SOV/93-58-11-6/15

A correspondence in the planned commercial drilling rates will signify that the existing drilling rate standards are suitable to the level of labor productivity at the given excess in conventional over planned drilling rate, but noncorrespondence will signify that the drilling rate is below the conventional standards. The practical application of this method is demonstrated by a specific example based on initial data (Table). There is 1 table.

Card 2/2

ASLANOV, S.A.; FAYN, G.M.

Selecting the optimal size for drill pipes. Neft.khoz. 43
no.4:29-33 Ap '65. (MIRA 18:4)

ASLANOV, S. K.

USSR/Mathematics - Sonic gas flow

FD-950

Card 1/1 Pub 85-4/11

Author : Aslanov, S. K. (Saratov)

Title : Circulation around a thin wedge by a weakly supersonic flow of an ideal gas

Periodical : Prikl. mat. i mekh. 18, 561-572, Sept/Oct 1954

Abstract : The circulation around the wedge was established by circumventing various difficulties. The wave resistance is expressed by the jump in entropy. The latter is related to the near-sonic law of analogy, (S. V. Fal'kovich: "Plane motion of gas at high supersonic velocities," PMM, 11, No 4 (1947); T. Karman, "Dynamics of gases," 1950) which facilitates the finding of formulas for the drag coefficients of the wedge in relation to the analogy parameter and the jump interval. The same method is used to compute the drag of the wedge in the case of a linear jump to its edge. Indebted to S. V. Fal'kovich. Nine references including one US.

Institution : --

Submitted : November 25, 1952

ASLANOV, S. K.

ASLANOV, S. K. - "The flow of a vapor current around wedge-shaped bodies."
Saratov, 1955. Saratov State U imeni N. G. Chernyshevskiy. (Dissertation
for degree of Candidate of Physico-mathematical Sciences.)

St: Knizhnaya letopis', No 48. 20 November 1955. Moscow.

ASLANOV, S. K.

USSR/Mechanics - Hydromechanics

FD-2486

Card 1/1 Pub 85-13/19

Author : Aslanov, S. K.

Title : ~~On the magnitude of the local supersonic zone~~
On the magnitude of the local supersonic zone in the flow of a stream
of compressible gas around a wedge

Periodical : Prikl. Mat. i Mekh., 19, 359-362, May-June 1955

Abstract : The author states that in the flow of a compressible gas around a
wedge a supersonic zone is formed whose dimensions increase as the
velocity of the incident stream is increased up to a critical value.
He analyzes the behavior of the magnitude of the local supersonic
zone and shows how it depends upon the angle of span of the wedge
and the velocity of the stream. The work is based on the approxi-
mate solution obtained by J. Cole for the case of high subsonic
speeds (J. Math and Phys., Vol 30, No 2, 1951).

Institution: --

Submitted : October 29, 1954

ASLANOV S.K.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG -688
 AUTHOR ASLANOV S.K.
 TITLE The resistance of a wedge-shaped profile which is flown around
 with sound velocity.
 PERIODICAL Priklad.Mat.Mech. 20, 756-760 (1956)
 reviewed 4/1957

A flow in direction of the positive x-axis is assumed to meet a wedge which lies symmetrically to the positive x-axis with the apex in the origin and possesses the angular aperture 2δ . This aerodynamic problem can be reduced to Tricomi's boundary value problem in the hodograph plane. In order to solve this problem, Groderly and Yosichara started from the approximative equations of a sound-near flow in the form due to Falkovič (Priklad.Mat.Mech 10, No.4, (1946)). The author starts from the rigorous equation due to Chaplygin:

$$\frac{\partial^2 \psi}{\partial \tau^2} + \frac{1 + (\beta - 1)}{\tau(1 - \tau)} \frac{\partial \psi}{\partial \tau} + \frac{1 - (2\beta + 1)}{4\tau^2(1 - \tau)} \frac{\partial^2 \psi}{\partial \theta^2} = 0,$$

where the stream function ψ must satisfy certain boundary conditions in the hodograph plane. Here $\tau = w^2/w_{\max}^2$, w is the velocity potential, $\beta = (\kappa - 1)^{-1}$, κ the adiabatic exponent. The complete boundary value problem of Tricomi is not solved, since one of the boundary conditions remains unfulfilled. Instead of it it is required that the stream function possesses a certain singularity

Priklad.Mat.Mech. 20, 756-760 (1956)

CARD 2/2

PG - 688

which has been investigated by Frenkel (Uchen.zap.MGU 4, wyp. 154, mechanics (1951)) and is hence of the form

$$\psi(\tau, \theta) = c^2 \sum_{n=1}^{\infty} n^{2/3} \frac{Z_{n\xi/2}(\tau)}{Z_{n\xi/2}(\tau_s)} \sin n\xi\theta.$$

Here τ_s corresponds to the sound velocity, $Z_m(\tau)$ is the Chaplygin function, c^2 an indefinite constant and $\xi = \pi/\delta$. By the application of considerable mathematical means the author obtains for the resistance coefficient in the case of sound velocity the following expression:

$$c_x = \frac{4\pi^{1/3}}{3^{5/6} \Gamma^2(\frac{2}{3})} \frac{2^{2/3}-1}{2^{4/3}-1} \frac{\zeta(1/3)}{\zeta(-1/3)} \left[\frac{\delta^{5/3}}{(\kappa+1)^{1/3}} \right].$$

The evaluation shows that this expression coincides with the result of Groderly and Yosichara:

$$c_x = 1,75 \frac{\delta^{5/3}}{(\kappa+1)^{1/3}}.$$

INSTITUTION:Saratov.

6132 F/R/V, S K

AUTHOR: Aslanov, S.K. (Saratov)

40-21-2-21/22

TITLE: The Asymptotic Chaplygin's Functions and Their Derivatives
(Asimptotika funktsiy Chaplygina i ikh proizvodnykh)

PERIODICAL: Prikladnaya Matematika i Mekhanika, 1957, Vol 21, Nr 2,
pp 297-302 (USSR)

ABSTRACT: The Chaplygin's functions

$$\psi_{\nu}(\tau) = \tau^{\nu/2} F(a_{\nu}, b_{\nu}, \nu+1, \tau),$$

where F is a certain hypergeometric function, satisfy the equation

$$(1) \quad \psi_{\nu}''(\tau) + \frac{1+(B-1)\tau}{\tau(1-\tau)} \psi_{\nu}'(\tau) - \frac{\nu^2}{4} \frac{1-(2B+1)\tau}{\tau^2(1-\tau)} \psi_{\nu}(\tau) = 0.$$

The asymptotic behavior of the functions $\psi_{\nu}(\tau)$ and $\psi_{-\nu}(\tau)$ being essential for numerous aerodynamic investigations, was investigated for special cases (subsonic velocity, sonic velocity, supersonic velocity) by Lighthill [Ref 7], Seifert [Ref 8], Frankl' [Ref 5] and other authors. For these func-

Card 1/3

The Asymptotic Derivatives of the Polygamma's Functions and Their

40-21-2-21/22

tions the author tries to obtain uniform asymptotic relations valid in the whole interval $0 < \tau < 1$. Therefore in (1) he introduces a new variable:

$$\eta = \left[\frac{3}{4} \int_{\tau}^{\tau_s} \sqrt{\frac{1-\tau/\tau_s}{1-\tau}} \frac{d\tau}{\tau} \right]^{2/3}, \quad \tau_s = \frac{1}{2B+1}, \quad S_{\nu}(\tau) = \frac{\psi_{\nu}(\tau)}{\psi_{\nu}(\tau_s)}.$$

Thereby (1) changes to

$$(2) \quad S_{\nu}''(\eta) + b(\eta) S_{\nu}'(\eta) - \nu^2 \eta S_{\nu}(\eta) = 0,$$

where

$$b(\eta) = \frac{1}{2} \frac{d}{d\eta} \ln \frac{K}{\eta}, \quad K = \frac{1 - \frac{\tau}{\tau_s}}{(1-\tau)^{2B+1}}$$

From (2) the author obtains the following formulas valid in the whole interval $0 < \tau < 1$:

Card 2/3

The Asymptotic ... Chaplygin's Functions and Their
Derivatives

40-21-2-21/22

$$S_v(\gamma) = \chi \frac{v(v^{2/3}\gamma)}{v(0)} \left\{ 1 + \frac{1}{2v} \int_0^\gamma \frac{q(x)}{\sqrt{x}} dx + O(v^{-4/3}) \right\},$$

where $\chi = \frac{(k+1)^{1/6}}{(1-\tau_s)^{3/2}} \left(\frac{\gamma}{K} \right)^{1/4}$ and v is a certain solution of

the equation $V''(s) - sV(s) = 0$. Similar asymptotic developments are given for S'_v , S''_v and S'''_v . The examination of the exactness carried out for $v = 30,5$ (comparison with the tables of Cherry) yields a satisfactory result. In the same way (with the aid of the results of Dorodnizyn [Ref 3]) the author obtains more complicated relations for supersonic velocities ($\gamma \ll 0$). There are 9 references 5 of which are Soviet, 1 American, 2 English, and 1 German.

SUBMITTED: November 10, 1956
AVAILABLE: Library of Congress

Card 3/3

1. Chaplygin's functions 2. Functions—Behavior